Appendix

FluSurge Spreadsheets for NJ

ICU Capacity Impact Maps by Region and County

IAC Composition

MEDPREP Composition

WHO Phases

URP Posters

Sample Standing Orders for Influenza and Pneumonia Vaccination

Dehydration and Rehydration Information

Checklist of Responsibilities (Fed, DHSS, LINCS, LHDs, Hospitals, Other)

Main Menu

Step 1: Determine population of locale by age groups:

Age Group	Population
0-17 yrs	2,087,558
18-64 yrs	5,213,656
+ 65 yrs	1,113,136

VIEW ASSUMP-TIONS

Step 2: Determine basic hospital resources:

Total staffed beds:	21,178
Staffed ICU beds:	1,790
Total number of ventilators:	1,790

Step 3: Determine duration (6, 8, or 12 weeks) and attack rate (15%, 25% or 35%) of the pandemic:

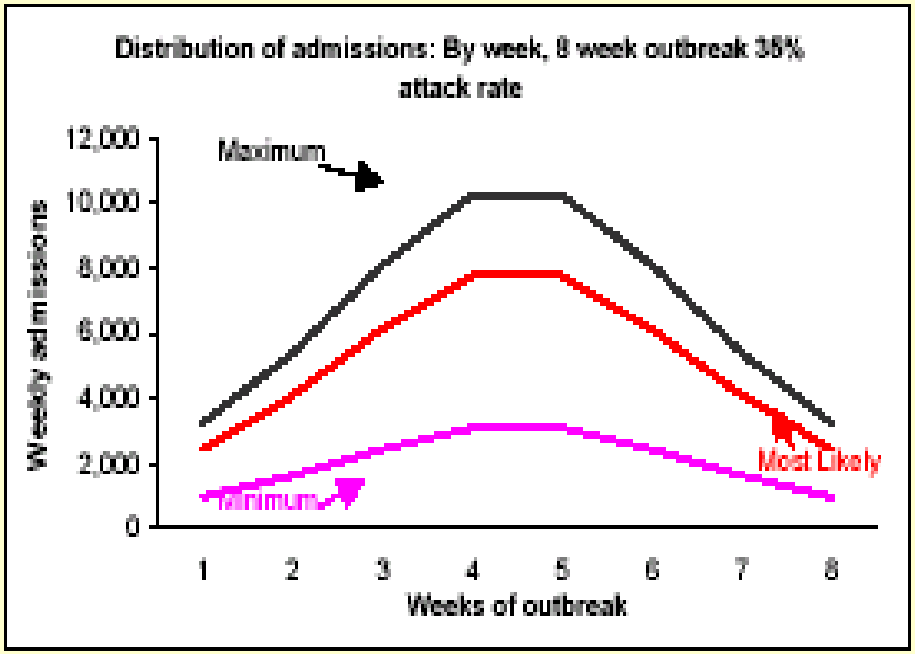
Duration: 8 ▼ Attack rate: 35% ▼

Step 4:

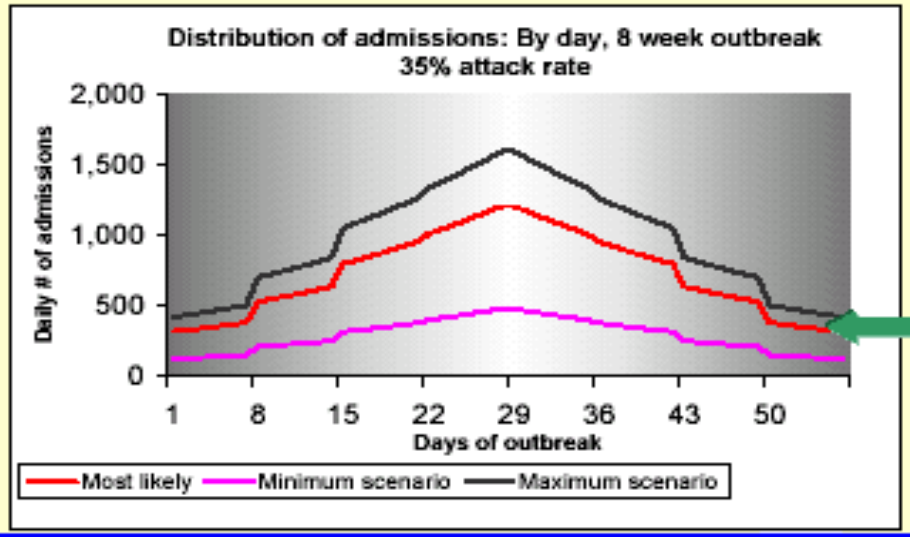
Notes: 1. Duration refers to the number of weeks you assume the pandemic wave to last.

2. Attack rate refers to the percentage of the population that becomes clinically ill due to influenza pandemic.

Influenza Pandemic Impact / Gross Attack Rate	35%
Total Hospital Admissions	
Most Likely Scenario	40,904
Minimum Scenario	16,251
Maximum Scenario	54,065
Total Deaths	
Most Likely Scenario	8,141
Minimum Scenario	4,718
Maximum Scenario	13,484



Hosp Adm. / Week	1	2	3	4	5	6	7	8
Most Likely Scenario	2,454	4,090	6,136	7,772	7,772	6,136	4,090	2,454
Minimum Scenario	975	1,625	2,438	3,088	3,088	2,438	1,625	975
Maximum Scenario	3,244	5,406	8,110	10,272	10,272	8,110	5,406	3,244



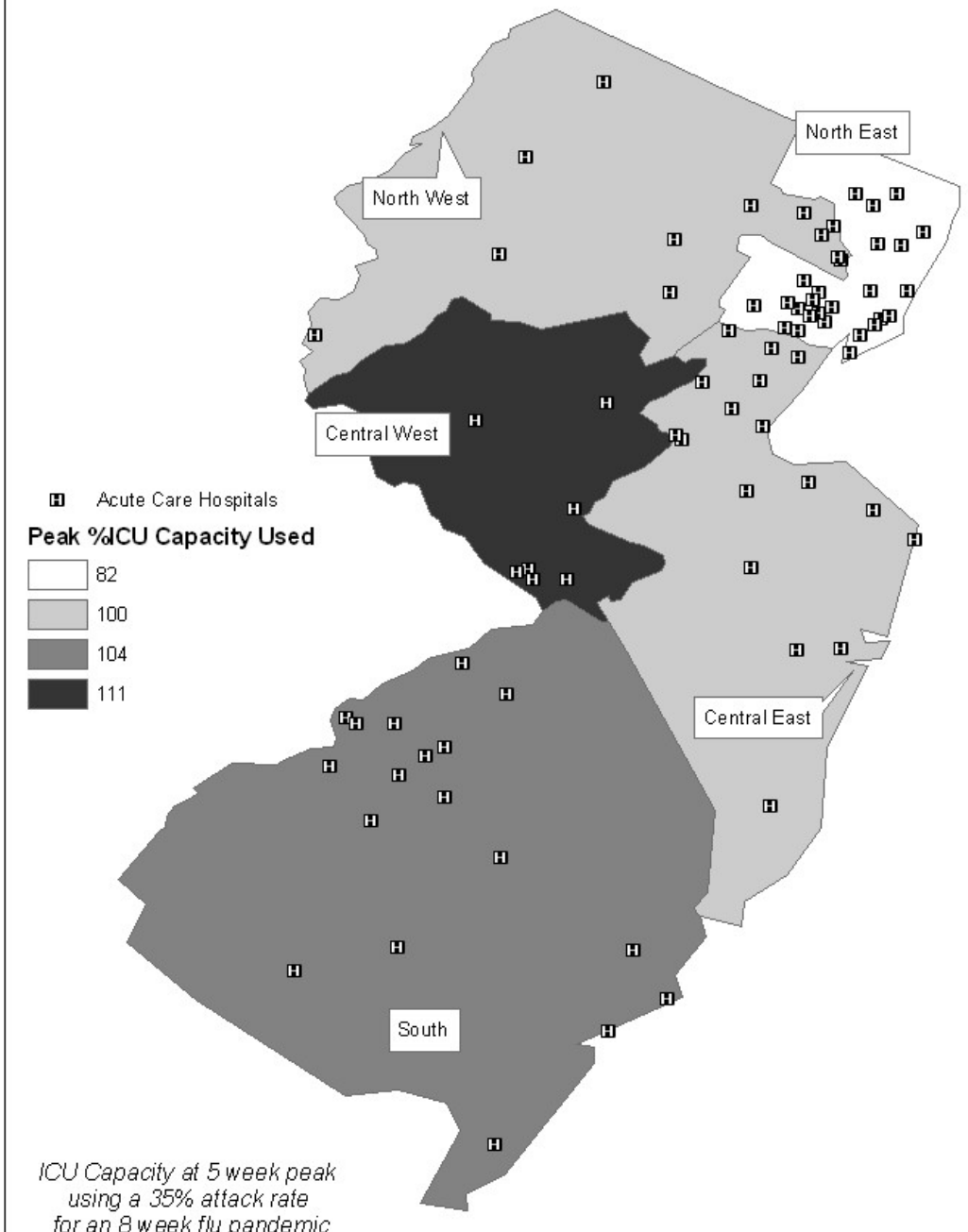
Total Hospital Admission (most likely)	*40,904*
Total Death (most likely)	*8,141*

Influenza Pandemic Impact / Weeks		1	2	3	4	5	6	7	8	9	10
Hospital Admission	Weekly admission	2,454	4,090	6,136	7,772	7,772	6,136	4,090	2,454		
	Peak admission/day				1,211	1,211					
Hospital Capacity	# of flu patients in hospital	2,454	4,090	6,136	7,772	8,185	7,517	5,817	3,835		
	% of hospital capacity used	12%	19%	29%	37%	39%	35%	27%	18%		
ICU Capacity	# of flu patients in ICU	368	781	1,199	1,584	1,714	1,667	1,325	915		
	% of ICU capacity used	21%	44%	67%	88%	96%	93%	74%	51%		
Ventilator Capacity	# of flu patients on ventilators	184	390	599	792	857	834	662	457		
	% usage of ventilator	10%	22%	33%	44%	48%	47%	37%	26%		
Deaths	# of deaths from flu			488	814	1,221	1,547	1,547	1,221	814	488
	# of flu deaths in hospital			342	570	855	1,083	1,083	855	570	342

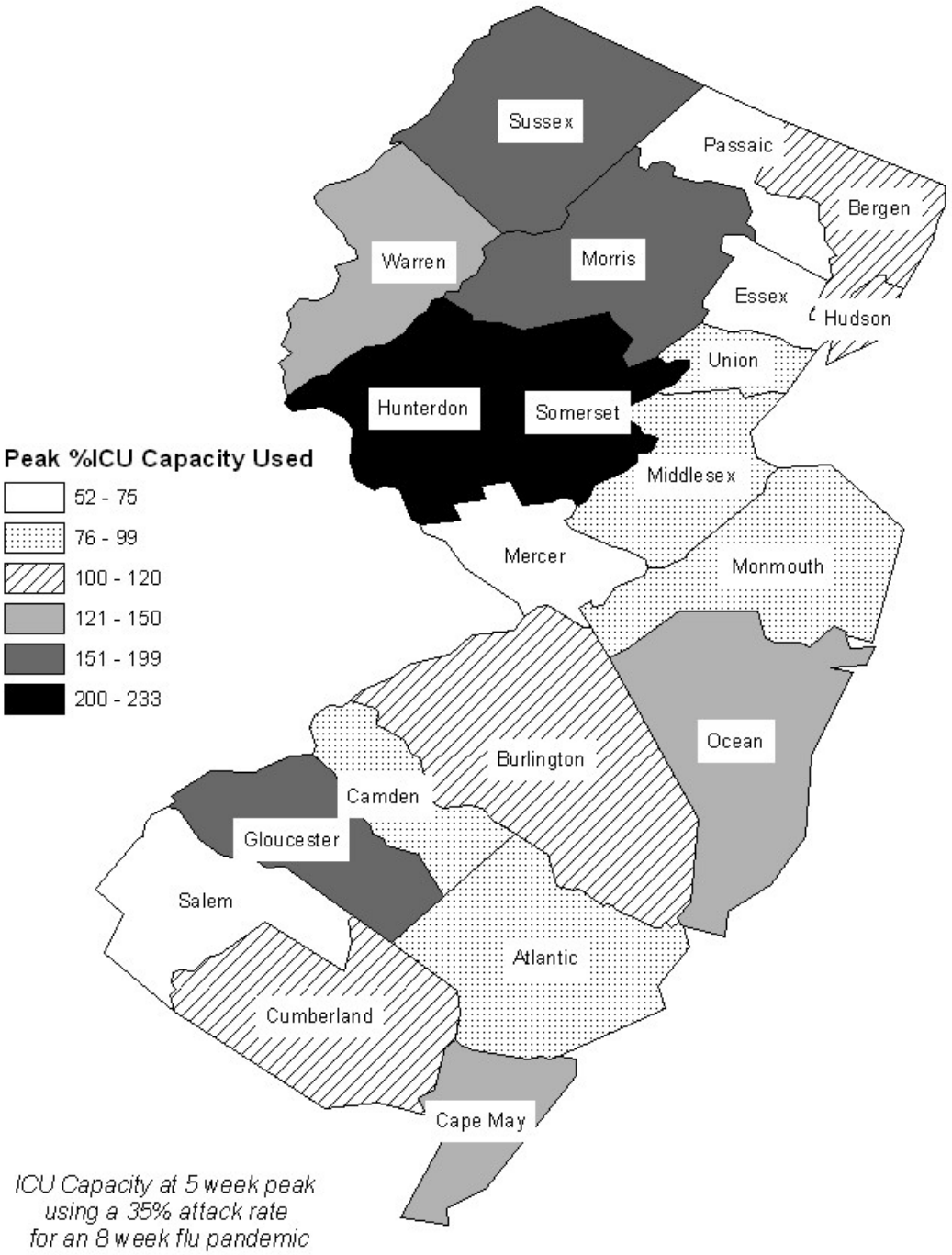
Notes: 1. All results showed in this table are based on most likely scenario.

2. Number of flu patients in hospital, in ICU, and number of flu patients on ventilator are based on maximum daily number in a relevant week.
3. Hospital capacity used, ICU capacity used, and % usage of ventilator are calculated as a percentage of total capacity (see manual for details).
4. The maximum number of flu patients in the hospital in a week is greater than weekly admission after the peak because we assume a 7-day stay in general wards (see manual for details).

Flu Pandemic - Impact on ICU Capacity



Flu Pandemic - Impact on ICU Capacity



ICU Capacity at 5 week peak using a 35% attack rate for an 8 week flu pandemic

INFLUENZA ADVISORY COMMITTEE

American Red Cross of Central NJ
Association of Professionals in Infection Control
Consumer Representative
Glaxo Wellcome, Inc
Hospital Alliance of NJ
Medical Society of NJ
Medical Transportation Association of NJ
NJ Chapter, American College of Emergency Physicians
NJ State First Aid Council
NJ State Police, Office of Emergency Management
NJ Academy of Family Physicians
NJ Association of Health Care Facilities
NJ Association of Health Plans
NJ Association of Non-Profit Homes for the Aging
NJ Association of Public Health Nurse Administrators
NJ Business Forum – BENS (Business Executives for National Security)
NJ Chapter, American Academy of Pediatrics
NJ Chapter, American College of Emergency Physicians
NJ County Health Officers Association
NJ DHSS Staff
NJ Food Council
NJ Health Officers Association
NJ Hospital Association
NJ Local Boards of Health Association
NJ Pharmacists Association
NJ Primary Care Association
NJ Public Health Council
NJ School Nurses Association
NJ State Nurses Association
Office of the State Medical Examiner
Peer Review Organization of NJ
Private Practitioner – Internist
Public Health Research Institute
Roche Laboratories, Inc
Rutgers College of Pharmacy
sanofi aventis

MEDPREP TERRORISM ADVISORY COMMITTEE

Academy of Medicine of NJ
Ambulance companies
American College of Physicians
American Red Cross of Central NJ
Association of Professionals in Infection Control
CDC Division of Global Migration & Quarantine
Emergency Medical Services for Children Advisory Council
Emergency Nurses Association
FEMA (Federal Emergency Management Agency)
Home Care Council of NJ
Home Health Assembly of NJ
Hospital Alliance of NJ
Local Health Departments
Medical Society of NJ
Mental Health Association of NJ
NJ State First Aid Council
NJ State Police, Office of Emergency Management
NJ Academy of Family Physicians
NJ Association of County Offices of Emergency Management
NJ Association of Non-Profit Homes for the Aging
NJ Association of Public Health Nurse Administrators
NJ Blood Services/NYBC
NJ Board of Nursing
NJ Center for Public Health Preparedness
NJ Chapter, American Academy of Pediatrics
NJ Chapter, American College of Emergency Physicians
NJ Council of Teaching Hospitals
NJ Department of Education
NJ Department of Human Services
NJ Department of Veteran Affairs
NJ DHSS Staff (various programs)
NJ Emergency Nurses Association
NJ Hospital Association and individual hospitals
NJ Infectious Disease Society
NJ Pharmacists Association
NJ Poison Information & Education System
NJ Primary Care Association
NJ Public Health Council
NJ Society for Public Health Education
NJ Society of Pathologists
NJ State Board of Medical Examiners
NJ State Nurses Association
NJ State Police

MEDPREP TERRORISM ADVISORY COMMITTEE
(continued)

OSHA (Occupational Safety and Health Administration)
Rutgers College of Nursing
Rutgers College of Pharmacy
Rutgers University – Cook College
UMDNJ School of Public Health
UMDNJ (several representatives)
US Naval Militia/Army State Guard
US Public Health Service

MEDPREP COMMUNICABLE DISEASE SUB-COMMITTEE

The purpose of this sub-committee is to provide information on any infectious disease that would be of interest to MEDPREP in terms of potential magnitude and impact.

The sub-committee is composed of NJDHSS-CDS staff as well as several infectious disease physicians and infection control professionals from various health care institutions.

World Health Organization Phases
2005

Interpandemic Period

Phase 1
No new influenza virus subtypes have been detected in humans. An influenza virus subtype that has caused human infection may be present in animals. If present in animals, the risk of human infection or disease is considered to be low

Phase 2
No new influenza virus subtypes have been detected in humans. However, a circulating animal influenza virus subtype poses a substantial risk of human disease.

Pandemic Alert Period

Phase 3
Human infection(s) with a new subtype, but no human-to-human contact spread, or at most rare instances of spread to a close contact.

Phase 4
Small cluster(s) with limited human-to-human transmission but spread is highly localized, suggesting that the virus is not well adapted to humans.

Phase 5
Larger cluster(s), but human-to-human spread still localized, suggesting that the virus is becoming increasingly better adapted to humans, but may not yet be fully transmissible (substantial pandemic risk.)

Pandemic Period

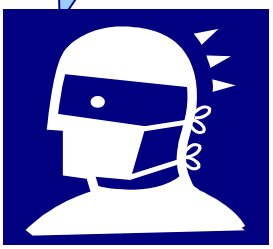
Phase 6
Pandemic phase: increased and sustained transmission in general population.

Postpandemic period

Return to interpandemic period.

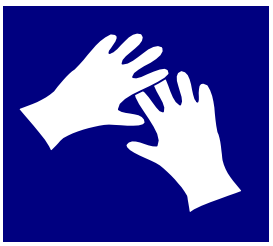
URP UNIVERSAL RESPIRATORY PRECAUTIONS

FOR HEALTH CARE SETTINGS



COVER COUGHS AND SNEEZES WITH TISSUES OR SURGICAL MASKS

WASH HANDS FREQUENTLY



WEAR GLOVES & GOWNS AND REPLACE OFTEN

GET YOUR FLU AND PNEU VACCINES

For more information: www.nj.gov/flu

NEW JERSEY DEPARTMENT of HEALTH and SENIOR SERVICES

URP UNIVERSAL RESPIRATORY PRECAUTIONS

HELP PREVENT THE SPREAD OF COLDS, FLU AND SARS

COVER COUGHS AND SNEEZES WITH TISSUES OR SURGICAL MASKS

WASH HANDS FREQUENTLY

STAY HOME IF YOU ARE FEELING SICK

GET YOUR FLU AND PNEU VACCINES

For more information: www.nj.gov/flu

NEW JERSEY DEPARTMENT OF HEALTH AND SENIOR SERVICES

Standing Orders for Administering Influenza Vaccine to Adults

Purpose: To reduce morbidity and mortality from influenza by vaccinating all patients who meet the criteria established by the Centers for Disease Control and Prevention's Advisory Committee on Immunization Practices.

Policy: Under these standing orders, eligible nurses may vaccinate patients who meet the criteria below.

Procedure:

1. Identify adults in need of influenza vaccination based on the following criteria:
   a. Age 50 years or older
   b. Age less than 50 years with any of the following conditions:
      • chronic disorder of the pulmonary or cardiovascular system, including asthma
      • chronic metabolic disease (e.g., diabetes mellitus), renal dysfunction, hemoglobinopathy, or immunosuppression (e.g., caused by medications, HIV) that has required regular medical follow-up or hospitalization during the preceding year
      • will be pregnant during the influenza season
   c. Residence in a nursing home or other chronic-care facility that houses persons of any age who have chronic medical conditions
   d. In an occupation or living situation that puts one in proximity to persons at high risk, including:
      • a health care worker, caregiver, or household member in contact with person(s) at high risk of developing complications from influenza
      • a household contact or out-of-home caretaker of a child 0–23 months of age
   e. Wish to reduce the likelihood of becoming ill with influenza
2. Screen all patients for contraindications and precautions to influenza vaccine:
   a. **Contraindications:** serious reaction (e.g., anaphylaxis) after ingesting eggs or after receiving a previous dose of influenza vaccine or an influenza vaccine component. For a list of vaccine components, go to www.cdc.gov/nip/publications/pink/appendices/a/excipient.pdf Do not give live attenuated influenza vaccine (LAIV) to pregnant women or immunosuppressed persons. Use of inactivated influenza vaccine is preferred over LAIV for close contacts of severely immunosuppressed persons during periods when the immunocompromised person requires a protective environment.
   b. **Precautions:** moderate or severe acute illness with or without fever
3. Provide all patients with a copy of the most current federal Vaccine Information Statement (VIS). Although not required by federal law, it is prudent to document in the patient's medical record or office log, the publication date of the VIS and the date it was given to the patient. Provide non-English speakers with a VIS in their native language if available; these can be found at www.immunize.org/vis
4. Administer 0.5 mL inactivated influenza vaccine IM (22–25g, 1–1½" needle) in the deltoid muscle. Alternatively, healthy persons 5–49 years of age without contraindications may be given 0.5 mL of LAIV; 0.25 mL is sprayed into each nostril while the patient is in an upright position.
5. Document each patient's vaccine administration information and follow up in the following places:
   a. **Medical chart:** Record the date the vaccine was administered, the manufacturer and lot number, the vaccination site and route, and the name and title of the person administering the vaccine. If vaccine was not given, record the reason(s) for non-receipt of the vaccine (e.g., medical contraindication, patient refusal).
   b. **Personal immunization record card:** Record vaccination date and the name/location of the administering clinic.
6. Be prepared for management of a medical emergency related to the administration of vaccine by having a written emergency medical protocol available, as well as equipment and medications.
7. Report all adverse reactions to influenza vaccine to the federal Vaccine Adverse Event Reporting System (VAERS) at www.vaers.org or (800) 822-7967. VAERS report forms are available at www.vaers.org

This policy and procedure shall remain in effect for all patients of the _____ until rescinded or until _____ (date).
(name of practice or clinic)

Medical Director's signature: _____ Effective date: _____

Standing Orders for Administering Pneumococcal Vaccine to Adults

Purpose: To reduce morbidity and mortality from pneumococcal disease by vaccinating all patients who meet the criteria established by the Centers for Disease Control and Prevention's Advisory Committee on Immunization Practices.

Policy: Under these standing orders, eligible nurses may vaccinate patients who meet the criteria below.

Procedure

1. Identify adults in need of vaccination with pneumococcal polysaccharide vaccine (PPV) based on the following criteria:
   a. Age 65 years or older with no or unknown history of prior receipt of PPV
   b. Age 18–64 years with no or unknown history of prior receipt of PPV and any of the following conditions:
      i. chronic cardiovascular disease (e.g., congestive heart failure, cardiomyopathies)
      ii. chronic pulmonary disease (e.g., emphysema or chronic obstructive pulmonary disease [not asthma])
      iii. diabetes mellitus, alcoholism, chronic liver disease (cirrhosis), or cerebrospinal fluid leaks
      iv. functional or anatomic asplenia (e.g., sickle cell disease, splenectomy)
      v. immunosuppressive conditions (e.g., HIV infection, leukemia, congenital immunodeficiency, Hodgkin's disease, lymphoma, multiple myeloma, generalized malignancy)
      vi. immunosuppressive chemotherapy (e.g., alkylating agents, antimetabolites, long-term systemic corticosteroids)
      vii. organ or bone marrow transplantation
      viii. chronic renal failure or nephrotic syndrome
      ix. candidate for or recipient of cochlear implant
2. Identify adults in need of a second and final dose of PPV if five or more years have elapsed since the previous vaccination and the patient is:
   a. Age 65 years or older and received prior PPV vaccination when less than age 65 years
   b. At highest risk for serious pneumococcal infection and/or likely to have a rapid decline in pneumococcal antibody levels (i.e., categories iv.-viii. above)
3. Screen all patients for contraindications and precautions to PPV vaccine.
   a. **Contraindications:** a history of a serious reaction (e.g., anaphylaxis) after a previous dose of PPV or to a vaccine component. For a list of vaccine components, go to www.cdc.gov/nip/publications/pink/appendices/a/excipient.pdf
   b. **Precautions:** a moderate or severe acute illness with or without fever
4. Provide all patients with a copy of the most current federal Vaccine Information Statement (VIS). Although not required by federal law, it is prudent to document in the patient's medical record or office log, the publication date of the VIS and the date it was given to the patient. Provide non-English speaking patients with a copy of the VIS in their native language, if available. These can be found at www.immunize.org/vis
5. Administer 0.5 mL PPV vaccine either IM (22–25g, 1–2" needle) or SC (23–25g, 5/8–3/4" needle).
6. Document each patient's vaccine administration information and follow up in the following places:
   a. **Medical chart:** Record the date the vaccine was administered, the manufacturer and lot number, the vaccination site and route, and the name and title of the person administering the vaccine. If vaccine was not given, record the reason(s) for non-receipt of the vaccine (e.g., medical contraindication, patient refusal).
   b. **Personal immunization record card:** Record the date of vaccination and the name/location of the administering clinic.
7. Be prepared for management of a medical emergency related to the administration of vaccine by having a written emergency medical protocol available, as well as equipment and medications.
8. Report all adverse reactions to PPV to the federal Vaccine Adverse Event Reporting System (VAERS) at www.vaers.org or by calling (800) 822-7967. VAERS report forms are available at www.vaers.org

This policy and procedure shall remain in effect for all patients of the_____ clinic until rescinded or until _____ (date).

Medical Director's signature: _____ Effective date: _____

Immunization Action Coalition • 1573 Selby Avenue • St. Paul, MN 55104 • (651) 647-9009 • www.immunize.org

Dehydration and Rehydration

What is dehydration?

The human body needs water to maintain enough blood and other fluids to function properly. If you lose substantially more fluids than you are drinking, you become dehydrated. Along with the fluids, your body also loses electrolytes, which are salts normally found in blood, other fluids, and cells. Death follows soon if rehydration is not started quickly.

Although anyone can become dehydrated, those who become dehydrated most easily are:

- babies under 1 year old
- the elderly
- anyone who has a fever (as with influenza)
- people in hot climates.

Symptoms:

Early features of dehydration are difficult to detect, but include dryness of mouth and thirst.

Symptoms of **early or mild** dehydration include:

- flushed face
- extreme thirst, more than normal or unable to drink
- dry, warm skin
- cannot pass urine or reduced amounts, dark, yellow
- dizziness made worse when standing
- weakness
- cramping in the arms and legs
- crying with few or no tears
- sleepy or irritable
- unwell
- headaches
- dry mouth, dry tongue; with thick saliva

Symptoms of **moderate to severe** dehydration include:

- low blood pressure
- fainting
- severe muscle contractions in the arms, legs, stomach and back
- convulsions
- a bloated stomach
- heart failure
- sunken fontanelle (soft spot on an intant's head)
- sunken, dry eyes with few or no tears
- skin loses its firmness and looks wrinkled
- lack of elasticity of the skin (when a bit of skin lifted up stays folded and takes a long time to return to its normal position)
- rapid and deep breathing – faster than normal
- fast, weak pulse

Dehydration prevention when the patient has a fever:

Follow these guidelines when possible:

- Give more fluids than usual
- Remember that a dehydrated person will have less of an appetite.
  Encourage him or her to eat and drink small amounts of food and liquid five to seven times a day.
- Watch for signs of more severe dehydration and get medical help as soon as possible.

Treatment:

For mild dehydration, drink enough liquid to replace the fluids lost. Drinking sips of water slowly and eating a typical American diet, which is high in salt, will replace the fluids and salts lost.

If the patient is unable to eat food, but can drink liquids:

Oral rehydration solutions (ORS) are commercially available and can be used for rehydration whenever the patient can drink the required volumes.

Oral rehydration should be taken by the patient in small, frequent volumes (spoonfuls or small sips every 5 minutes until urination becomes normal).

If commercial ORS is not available, a home made solution can be made by mixing the following until the sugar has dissolved:

5 cups water
1 level teaspoon salt
8 level teaspoons of sugar

This ORS should be covered and not kept for more than 24 hours. Chilling it may improve the taste. Adults and large children should drink at least 3 quarts of ORS a day until they are well.

Someone with symptoms of **severe dehydration** needs to go to an emergency room or other health care facility to get intravenous fluids. When hospitals are at capacity during an influenza pandemic, out-patient re-hydration stations will be established.

The bottom line:

With fever, force fluids to prevent dehydration.
Severe dehydration can cause death.

Content of this document is a compilation of information from the Rehydration Project: http://rehydrate.org.

Checklist of Responsibilities

(Fed, DHSS, LINCS, LHDs, Hospitals, Other)

See separate document.